

The Distributive Property

- For the distributive property across addition: $a(b + c) = ab + ac$ OR $(b + c)a = ba + ca$
- Same for multiplication across subtraction: $a(b - c) = ab - ac$ OR $(b - c)a = ba - ca$

Rewrite each expression using the Distributive Property. Then simplify. Place your answers on the spaces provided.

1. $5(2 + 9)$ _____

2. $8(10 + 20)$ _____

3. $20(8 - 3)$ _____

4. $3(5 + w)$ _____

5. $(h - 8)7$ _____

6. $-6(y + 4)$ _____

7. $9(3n + 5)$ _____

8. $32(x - \frac{1}{8})$ _____

9. $-8(-x - 4)$ _____

Simplify each expression. If not possible, write *simplified*.

- Like terms have the same variables and corresponding exponents (ex: $4x$ and $-5x$; $2xy^2$ and $4xy^2$).
- Only combine the coefficients (numbers in front). Do not change exponents (NOT multiplication).

10. $13a + 5a$ _____

11. $21x - 10x$ _____

12. $8(3x + 7)$ _____

13. $4m - 4n$ _____

14. $15x^2 + 7x^2$ _____

15. $11a^2 - 11a + 12a^2$ _____

Evaluate each expression.

- Use the commutative and associative properties to make it easier (show your work!!!).

16. $23 + 37 + 8 + 12$ _____

17. $10.25 + 2.5 + 3.75$ _____

18. $2\frac{1}{3} + 6 + 3\frac{2}{3} + 4$ _____

19. $18 \cdot 5 \cdot 2 \cdot 5$ _____

20. $0.25 \cdot 7 \cdot 8$ _____

Simplify each expression (no parentheses when finished and make sure to combine all like terms).

21. $5a + 6b - 7a$ _____

22. $8x - 4y + 9y$ _____

23. $(4p - 7x) + (5x - 8p)$ _____

24. $-4(2x + y) - 5x$ _____

25. $9r^5 + 2r^2 - r^5$ _____

26. $12b^3 + 12 + 12b^3 - 5$ _____

27. $3(x + 2y) + 4(3x - y)$ _____

28. $3 + 8(st + 3w) + 3st - 15$ _____